



Environmental



Guidance

Resource Conservation and Recovery Act Hazardous Waste Tank Systems

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U.S. Department of Energy
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RCRA/CERCLA Division, EH-413
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Resource Conservation and Recovery Act Hazardous Waste Tank Systems



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Chapter 1

Hazardous Waste (HW) Accumulation, Storage, and Treatment Tank Regulatory Requirements

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1.1 Purpose

This document provides comprehensive guidance for complying with Federal hazardous waste (HW) tank regulations. These regulations are found in the Code of Federal Regulations (CFR), specifically in Subpart J (Tank Systems) (40 CFR 264.190 through 199 for permitted facilities, or 40 CFR 265.190 through 201 for interim status facilities). This guidance utilizes flowcharts and checklists to assist Department of Energy (DOE) staff and DOE operating contractor personnel in identifying the specific regulatory requirements necessary to complete various HW tank management or operation tasks, from tank installation through inspection and closure.

DOE staff should use this guidance as:

- An overview of the regulations for HW tank management;
- A comprehensive, step-by-step guide to the process of operating a HW tank, from installation to closure and for daily management pursuant to Resource Conservation, and Recovery Act (RCRA) requirements;
- A quick, readily available reference guide for specific topics concerning HW tank management.

This guidance is **not** to be consulted for requirements applicable to Underground Storage Tanks (USTs) regulated under Subtitle I of RCRA. Subtitle I regulates USTs that contain "Regulated Substances," which are hazardous substances in Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or that contain petroleum. Guidance on the operation and maintenance of USTs is available in the DOE publication "Regulated Underground Storage Tanks." [1]

1.2 An Introduction to Solid and Hazardous Wastes

A solid waste is any material that is discarded by being abandoned (disposed, burned, or incinerated; or accumulated, stored, or treated prior to or in lieu of being disposed, burned, or incinerated); recycled, as specified in 40 CFR 261.2(c); or considered inherently waste-like as defined in 40 CFR 261.2(d). See the Glossary for the definition of "inherently waste-like." A solid waste is hazardous if it is not excluded from the hazardous waste regulations, and

- It is listed in one of the four lists developed by the Environmental Protection Agency (EPA) and contained in the CFR at 40 CFR 261.31-33 (a listed waste); or
- It exhibits one or more of four characteristics identified at 40 CFR 261.21-24-- "ignitability," "corrosivity," "reactivity," and "toxicity," (a characteristic waste).

Also, mixtures of solid and hazardous wastes as well as residues from HW treatment may be HW (40 CFR 261.3). Below is a description of listed and characteristic wastes.

Listed Wastes

The first list of wastes contains the "F listed" wastes. These are generic wastes such as spent halogenated solvents used in degreasing operations, and dioxins commonly produced by manufacturing and industrial processes.

The second list of wastes contains the "K listed" wastes. Specifically identified industries such as petroleum refining and wood preserving produce "K listed" wastes.

The third list of wastes contains the "P and U listed" wastes. These wastes are specific commercial chemical products such as chloroform, creosote, acids, and pesticides.

(See 40 CFR 261.31 through 33 for the lists of "F, K, P, and U listed" wastes.)

Characteristic Wastes

A solid waste exhibits the characteristic of **ignitability** if a representative sample has any of the following properties:

- It is a liquid, other than an aqueous solution that contains less than 24 percent alcohol by volume, and has a flash point less than 60 degrees Centigrade (140 degrees Fahrenheit) as determined by the appropriate test (see 40 CFR 261.21 for more details);
- It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard;
- It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under 40 CFR 260.20 through 21; or
- It is an oxidizer as determined in 49 CFR 173.151.

A solid waste exhibits the characteristic of **corrosivity** if a representative sample of the waste has either of the following properties:

- It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either an EPA test method or an equivalent test method (see 40 CFR 261.22 for more details); or

-
- It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 millimeters (0.250 inch) per year at a test temperature of 130 degrees Fahrenheit as determined by the appropriate test method (see 40 CFR 261.22 for more details).

A solid waste exhibits the characteristic of **reactivity** if a representative sample of the waste has any of the following characteristics:

- It is normally unstable and readily undergoes violent change without detonating;
- It reacts violently with water;
- It forms potentially explosive mixtures with water;
- When mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment;
- It is a cyanide- or sulfide-bearing waste that, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health and the environment;
- It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if it is heated under confinement;
- It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or
- It is a forbidden explosive as defined in 49 CFR 173.51, a Class A explosive as defined in 49 CFR 173.53, or a Class B explosive as defined in 49 CFR 173.88.

A solid waste exhibits the characteristic of **toxicity** if, using the test methods described in Appendix II of 40 CFR Part 261 or equivalent method, the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 of 40 CFR 261.24 at a concentration equal to or greater than the respective value given in that table (see 40 CFR 261.24 for more details). For further information refer to the DOE publication, "Definition of Solid and Hazardous Wastes." [2]

1.3 Managing Hazardous Waste Tanks at DOE Facilities

DOE facilities produce a great variety of hazardous wastes and radioactive mixed wastes (RMWs) which must be stored and treated properly in accordance with the regulations mandated by RCRA. The RCRA regulatory framework identifies those solid wastes that must be managed as HWs.

HW streams at DOE facilities can be quite large in volume. DOE hazardous waste streams result primarily from laboratory research, cleaning and maintenance activities, chemical and fuel processing operations, and remedial and restoration operations. In some processes, HWs at DOE facilities can become mixed with radioactive waste. When this occurs, the RMW must be

managed under RCRA to the extent that such management is not inconsistent with the provisions of the Atomic Energy Act (AEA). RMW is regulated by both the applicable provisions of RCRA and the AEA. In cases where the two authorities conflict, the AEA requirements would take precedence over the RCRA requirements.

Requirements applicable to management of radioactive wastes are also contained in the following DOE Orders:

- DOE Order 5400.5, Radiation Protection of the Public and the Environment; and
- DOE Order 5820.2A, Radioactive Waste Management.

1.4 Statutory and Regulatory Authority for Federal Facility Compliance with HW Tank Regulations

Pursuant to RCRA Section 6001, Federal facilities are subject to, and must comply with, all "Federal, State, interstate, and local requirements, both substantive and procedural (including any requirements for permits or reporting), respecting control and abatement of solid or hazardous waste disposal in the same manner, and to the same extent, as any person is subject to" such requirements.

1.5 RCRA Authorized States

An authorized state is one that has been granted authority by EPA to implement the Federal RCRA program in lieu of EPA implementation of the program. In an unauthorized state, the Federal RCRA program is run by EPA, not by the state.

1.6 HSWA and Pre-HSWA (RCRA) Authorities

In January of 1981, the EPA promulgated permitting standards under RCRA for HW accumulation, storage, and treatment tanks. On July 14, 1986, EPA revised these regulations. Certain portions of the July 14, 1986, rule were promulgated pursuant to RCRA authority, while other portions were promulgated pursuant to authorities added to RCRA by the Hazardous and Solid Waste Amendments of 1984 (HSWA). Below is a brief description of the differences between pre-HSWA and HSWA requirements for HW tank systems.

Pre-HSWA (RCRA) Requirements

The sections of the tank rule that were promulgated pursuant to RCRA authorities are the following:

- **All** sections of the July 14, 1986, tank rule [51 *Federal Register (FR)* 25472] when applied to **existing** aboveground, on-ground, and in-ground tank systems, and to underground tank systems that **can** be entered for inspection.

HSWA Requirements

The sections of the tank rule that were promulgated pursuant to HSWA authorities are the following:

- Interim status requirements applicable to tank systems owned and operated by small quantity generators (Section 3001(d));
- Leak detection requirements for **all** new underground tank systems (Section 3004(o)(4)); and
- Technical and permitting standards for underground tanks that **cannot** be entered for inspection (Section 3004(w)).

The provisions were effective immediately in all states, regardless of the authorization status. Tanks owned by DOE in these categories must comply with the Federal regulations **and** with any applicable state requirements.

1.7 Additional Requirements: State Regulations, Regulatory Changes, DOE Orders, Federal Facility Agreements

This guidance has been designed to be used in conjunction with, not in lieu of, Federal Facility Compliance Agreements, Federal and state HW tank regulations, and DOE Orders.

Federal Facility Compliance Agreements (FFCAs)

DOE staff should review any consent agreement made between DOE, states, and EPA that may affect the operation of a HW tank management program.

State Regulations

States that have authority over their RCRA programs **may** have requirements that are more stringent than those in unauthorized states. DOE facilities need to closely monitor state RCRA programs for changes that will affect their facilities.

DOE Orders

DOE Orders pertinent to the management of HW tanks (e.g., notification and reporting requirements for releases of HW from a tank) include:

- DOE Order 151.1, Comprehensive Emergency Management System;
- DOE Order 231.1, Environmental, Safety, and Health Reporting;
- DOE Order 232.1, Occurrence Reporting and Processing of Information;
- DOE Orders 5500.1B, 2B, 3A, and 10, which implement DOE's Emergency Management System and DOE's Emergency Readiness Assurance Program;
- DOE Order 5400.1, General Environmental Protection Program; and
- DOE Order 5484.1, Environmental Protection, Safety, and Health Protection Information Report Requirements.

Also, careful records of HW tank monitoring activities need to be kept for inclusion in the Annual Site Environmental Report required by DOE Order 5400.1. Monitoring and sampling information also is required for inclusion in the Environmental Monitoring Report (EMR). If the site is exempted from the EMR, the information will be included in the Environmental Summary required by DOE Order 5484.1.

1.8 How to Use This Guidance

This guidance is organized according to the kinds of HW tanks that may exist at DOE facilities. The user should read Chapter 2, "Identification and Classification of Hazardous Waste Tanks," before attempting to begin any of the activities in this document. After reading Chapter 2, the reader should understand both the nature of the tank systems currently located or planned for his/her facility and the contents (or intended contents) of those tanks.

Once a HW tank has been identified and classified, the reader should use Module C in Chapter 2, "Module C: Next Steps," to identify the appropriate HW tank requirements and their location in this guidance. Following are the requirements for existing or new tanks and for small quantity generators.

For **existing hazardous waste tanks**:

- Tank Integrity Testing;
- Operating and Inspection Requirements;
- Secondary Containment Requirements, Secondary Containment: Variance Requirements (if a variance is warranted), and Requirements for Responding to a Leak from a HW Tank that has Received a Variance;
- Response to Leaks or Spills (includes repairs and reporting); and
- Closure and Post-Closure Care.

For **new hazardous waste tanks**:

- New Tank Construction and Installation Requirements;
- Operating and Inspection Requirements;
- Secondary Containment Requirements, and Secondary Containment: Variance Requirements (if a variance is desired);
- Response to Leaks or Spills (includes repairs and reporting); and
- Closure and Post-Closure Care.

(See Chapter 2, "Module B: Classification of Hazardous Waste Tanks by Age," for the definitions of "existing" and "new" HW tanks.)

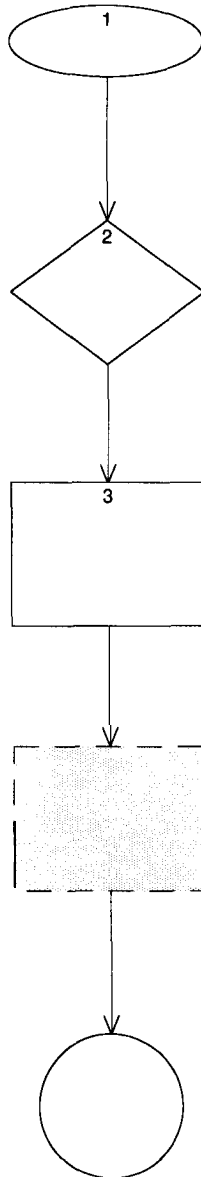
For **small quantity generators** or generators who accumulate HW on-site in tanks for less than 90 days:

- Accumulation Time and Small Quantity Generator Requirements.

Each **chapter** contains a table of contents, an introduction to the chapter, and modules. Each **module within each chapter** contains an introduction, milestones that highlight the most important specific actions within that module, a step-by-step flowchart, and supplemental information that supports the flowchart. Reference citations are provided in brackets, where appropriate. Figure 1.1 identifies the shapes that have been used in the flowcharts. A glossary has been provided in Appendix A. Summary milestones for each chapter are provided in Appendix B. A reference list has been provided in Appendix C.

The CFR was the primary reference source for both the flowcharts and the supplemental information to the flowcharts. Where possible, the CFR language was used directly. A list of all referenced CFR citations can be found in Appendix D. Additional information was obtained from the *Federal Register* and technical documents published by the EPA.

**Figure 1.1 : Guide to Shapes Used
in This Manual**



The oval is used to begin each flowchart.

Shaded diamonds are used to ask a question.

Plain boxes are used to present answers to questions found in diamonds or to tell the reader about a section of the regulations.

Shaded dashed boxes give the reader directions that are needed to successfully complete each module.

Round circles direct the reader to turn the page to continue a flowchart.

This guidance covers the regulations for both permitted [40 CFR Part 264] and interim status [40 CFR Part 265] facilities. (A facility has interim status if, as defined by RCRA Section 3005(e), (1) the facility required to have a permit was in existence on November 19, 1980, or (2) the facility was in existence on the effective date of statutory or regulatory changes under RCRA that render the facility subject to the requirement to have a permit under Section 3005 and the facility has complied with the requirements of Section 3010(a) and has made an application for a permit. The facility will be treated as having a permit until a final administrative decision is made.) In most cases the requirements for permitted and interim status facilities are the same.

To keep the document as concise as possible, when requirements are the same for permitted and interim status facilities the reference citation appears as a combination of both CFR citations. For example, the reference citation for Section (c) from the General Operating Requirements is presented as 40 CFR 264/265.194(c).

1.9 Overview of Chapters

Chapter 2: Identification and Classification of Hazardous Waste Tanks

This chapter identifies tanks that are subject to Federal regulation, categorizes HW tanks according to age, and describes HW tanks that are exempt from the HW tank requirements. [40 CFR 260.10, 262.34, and 264/265.1]

Chapter 3: Integrity Testing for Existing Tanks

This chapter provides the requirements for assessing existing tanks that do not have secondary containment. This assessment must prove that the tank is capable of holding HW without leaking. [40 CFR 264/265.191]

Chapter 4: New Tank Construction and Installation Requirements

Owners or operators of new tank systems are required to prove that their system has been adequately designed and safely installed. The structural integrity of the tank must be maintained in order to prevent HW leaks. [40 CFR 264/265.192]

Chapter 5: Organic Air Emission Control Requirements for HW Tanks

With some DOE-relevant exceptions, owners or operators of HW tank systems are required to comply with air emission controls based on the average VO concentration of the HW: (1) at the point of waste origination, or (2) at the point of waste treatment. HW tanks standards are separated into two levels -- Tank Level 1 and Tank Level 2. [40 CFR Part 264/265, Subpart CC]

Chapter 6: Operating and Inspection Requirements

HW tanks must have sufficient spill and overfill prevention controls and adequate freeboard must be maintained in uncovered tanks to prevent overtopping by wave or wind action. Inspection of certain elements of a HW tank system is required to prevent or quickly identify releases. [40 CFR 264/265.194 and 195]

Chapter 7: Secondary Containment Requirements

Secondary containment structures must be installed on new and existing HW tanks. Timetables for the two age categories vary. It is possible to obtain a variance from this requirement. Consult this chapter before installing secondary containment structures. [40 CFR 264/265.193]

Chapter 8: Release Response Requirements

In the event of a release from a HW tank, owners or operators must cease operation of that tank and perform any necessary cleanup, repair, and reporting actions. [40 CFR 264/265.196]

Chapter 9: Accumulation Time and Small Quantity Generator Requirements

Generators of HW who meet the definition of a small quantity generator and/or who accumulate HW on-site for less than 90 days are responsible for the HW tank requirements contained in this chapter. [40 CFR 262.34, 261.5, and 265.201]

Chapter 10: Closure and Post-Closure Care Requirements

Upon closure of a HW tank system, the owner or operator must remove or decontaminate the system and manage all associated materials as HW. [40 CFR 264/265.197]

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Chapter 2

Identification and Classification of Hazardous Waste Tanks

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2.1 Introduction

2.1.1 Background

The Federal HW accumulation, storage, or treatment tank regulations specify requirements for HW tanks that are located aboveground, underground, or partially underground. The Federal HW tank regulations also allow for exemptions from all or part of the regulations. Exemptions are based upon the contents of the tanks (i.e., certain recyclable HWs) or the use of a tank during the immediate response to a discharge. Exemptions are also available for wastewater treatment units, elementary neutralization units, and totally enclosed treatment units. Generators who are accumulating HW on-site for 90 days or less, or who are small quantity generators, are also exempted from some of the Federal HW tank system requirements.

This guidance should be used when:

- Installing a new HW tank;
- Determining the current level of compliance at HW tank facilities;
- Operating, maintaining, or closing any HW tank; and/or
- Replacing or upgrading an existing HW tank.

This chapter allows users to identify Federally regulated HW tanks and to determine the age classification and any applicable exemptions for tanks at a DOE facility.

2.1.2 Major Requirements

This chapter has been organized into three modules. Each module addresses specific classification procedures for HW tanks.

- **Module A: Identification of Federally Regulated Hazardous Waste Tanks.** This module aids the reader in the identification of Federally regulated HW tanks as well as those HW tanks that are exempted from certain requirements.
- **Module B: Classification of Hazardous Waste Tanks by Age.** This module further classifies HW tanks into two categories based on age: "new" or "existing."
- **Module C: Next Steps.** This module guides the reader to the chapters and modules of this document that will pertain to a particular type of HW tank.

2.2 Module A: Identification of Federally Regulated Hazardous Waste Tanks

2.2.1 Introduction

To comply with the Federal requirements for the accumulation, storage, and treatment of HW in tanks, all tanks that contain HW must be identified. As EPA designates more waste streams as HW, tanks previously classified as containing non-HWs may be re-classified as tanks containing HW.

Identification of EPA-regulated HW tanks involves the presence of wastes defined as "hazardous." The accurate characterization of some hazardous wastes can be complicated by the presence of radioactive wastes.

DOE personnel must have a thorough understanding of this chapter to ensure that all regulated (and exempted) HW tanks are identified.

2.2.2 Milestones

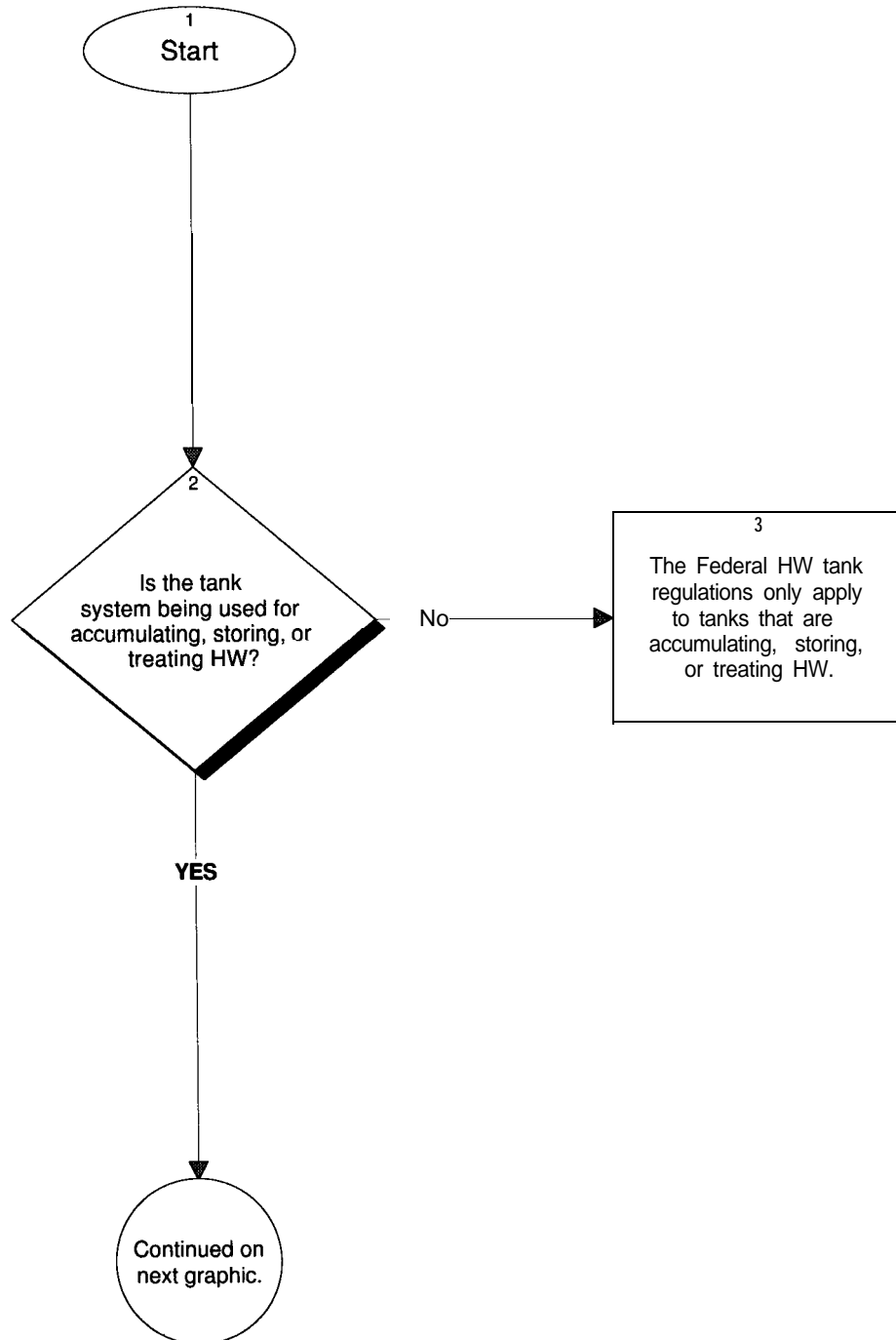
Have all Federally regulated hazardous waste tanks been identified?

To determine how HW tanks at your facility are regulated:

- All HWs in tanks must be identified;
- All exempted HW tanks must be identified; and

The following flowchart outlines EPA's HW tank classification elements.

Figure 2.1: Identification of Federally Regulated Hazardous Waste Tanks



Step 1 Start

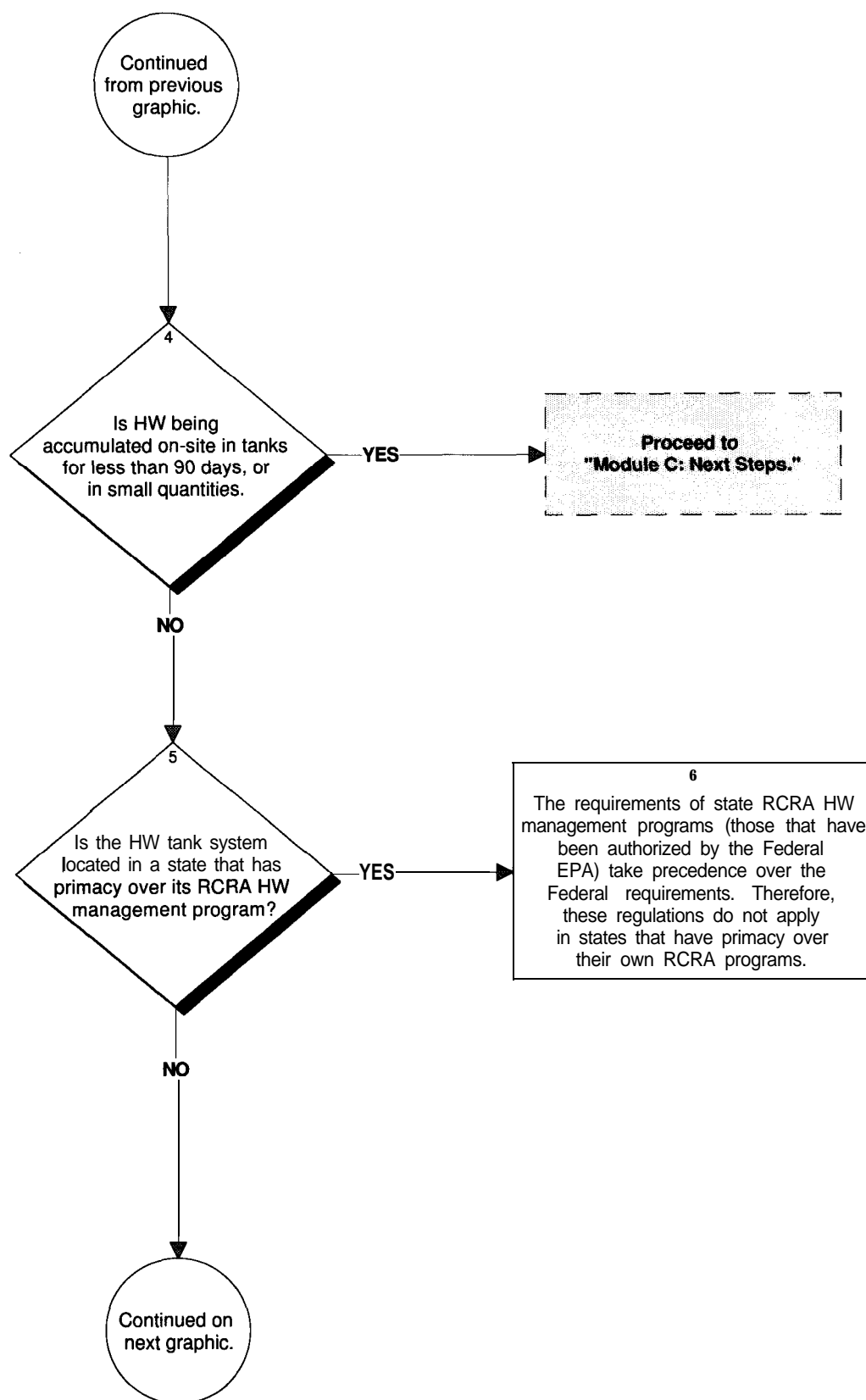
Step 2 Tank systems may only be used for the storage and treatment of HW; they **may not** be used for the disposal of HW.

"Storage" means the holding of HW for a temporary period at the end of which the HW is treated, disposed, or stored elsewhere.

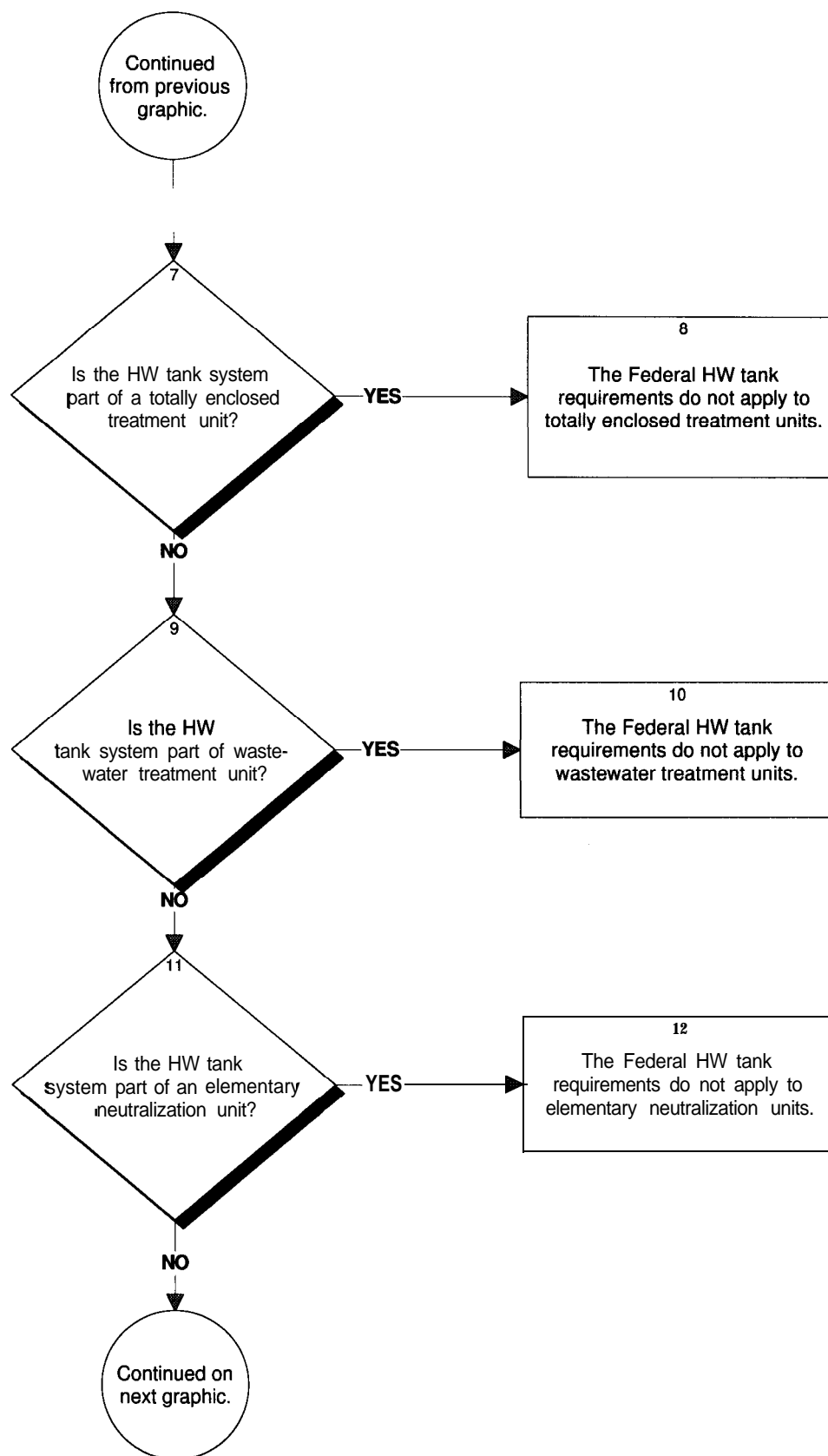
"Treatment" means any method, technique, or process (including neutralization), designed to change the physical, chemical, or biological character or composition of any HW so as to:

- Neutralize such waste;
- Recover energy or material resources from the HW;
- Render such HW non-hazardous or less hazardous; safer to transport, store, or dispose; or amenable for recovery or storage; or
- Reduce the HW in volume.

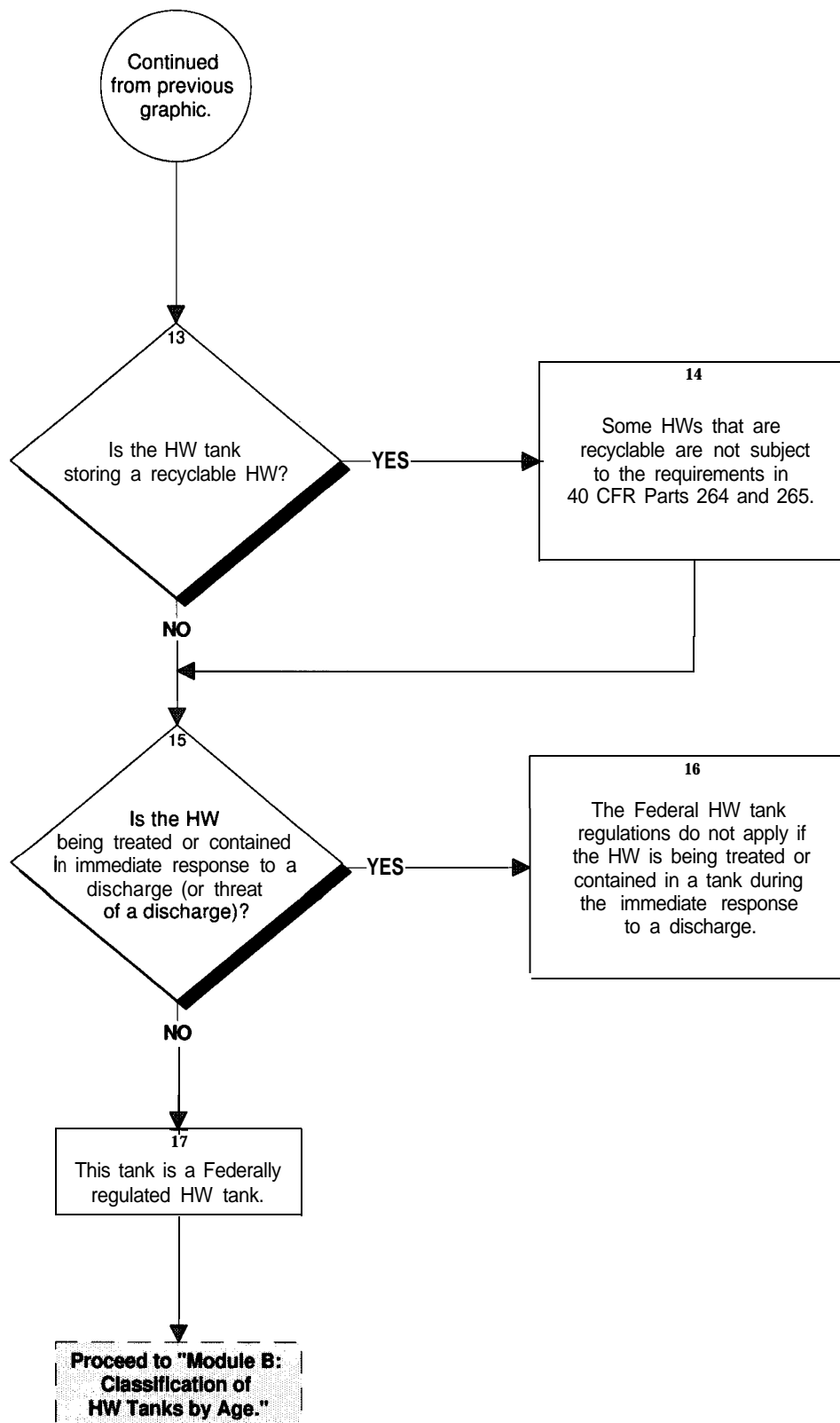
Step 3 These regulations do not apply to tanks holding any substance other than a HW.



- Step 4** Neither a permit nor interim status are required for generators who accumulate HW in any quantity for 90 days or less, and/or who generate between 100 and 1,000 kilograms of HW a month, storing it for 180 days or less.
- Step 5** A state is said to have primacy when EPA gives the state the authority to administer a given regulatory program in lieu of Federal regulation.
- Step 6** The Federal HW tank requirements **do not** apply to an owner/operator who treats, stores, or disposes of HW in a state with an authorized RCRA HW program unless treatment, storage, or disposal of HW occurs at a facility that **was not** covered by the applicable regulations when the state obtained authorization, and for which EPA promulgates regulations **after** the state is authorized. Federal regulations will apply until the state is authorized to regulate such facilities under Subpart A of 40 CFR Part 271. State regulations must be at least as stringent as the Federal regulations described in this manual in order for the state to be authorized. If the tank is located in an authorized state, the owner/operator must be aware of the state regulations.



- Step 7** A "totally enclosed treatment unit" is defined by 40 CFR 260.10 as a "facility for the treatment of HW which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of HW or any constituent thereof into the environment during treatment." An example of this would be a pipe in which waste acid is neutralized.
- Step 8** Because of the high degree of environmental protection provided by these units, EPA exempted them from these regulations.
- Step 9** A "wastewater treatment unit" is a device that:
- Is part of a wastewater treatment facility that is subject to regulation under either Section 402 or 307(b) of the Clean Water Act; and
 - Receives and treats or stores an influent wastewater that is a HW, or generates and accumulates, stores, or treats a wastewater treatment sludge that is a HW; and
 - Meets the definition of tank or tank system. A "tank" is a stationary device designed to contain an accumulation of HW and that is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support. A "tank system" is a HW storage or treatment tank and its associated ancillary equipment and containment system. [3]
- Step 10** Wastewater treatment units are exempted from these regulations by 40 CFR 264(g)(6) or 265(c)(10).
- Step 11** An "elementary neutralization unit" is a device that:
- Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in 40 CFR 261.22 or are listed in 40 CFR Part 261, Subpart D because they exhibit this characteristic; and
 - Meets the definition of tank, tank system, container, transport vehicle, or vessel. (See Step 9 for the tank and tank system definitions.) A "container" is any portable device in which a material is stored, transported, treated, disposed, or otherwise handled. A "transport vehicle" is a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.
- Step 12** Elementary neutralization units have been exempted from compliance with the HW tank regulations.



Step 13 A material is recycled if it is used, reused, or reclaimed, as those terms are defined in 40 CFR 261.2 and in the glossary of this manual.

Step 14 The following recyclable materials **are not** subject to the requirements of 40 CFR Parts 264/265 Subpart J. These materials, identified in 40 CFR 261.6(a)(3), include:

- Industrial ethyl alcohol being reclaimed, except in cases where it is being exported for reclamation, in which case the export requirements of 40 CFR 262.53, 262.56, and 262.57 apply; and
- Other materials associated with the petroleum refining industry.

The following recyclable materials **are not** subject to the requirements of 40 CFR Part 261 but **are** regulated under Subparts C through G of 40 CFR Part 266 and all applicable permitting provisions in 40 CFR Parts 270 and 124:

- Recyclable materials used in a manner constituting disposal;
- HWs burned for energy recovery in boilers and industrial furnaces that are not regulated under Subpart O of 40 CFR Parts 264 or 265;
- Recyclable materials from which precious metals are reclaimed; and
- Spent lead-acid batteries that are being reclaimed.

Recycled used oil that is hazardous solely because it exhibits one or more of the characteristics described in Chapter 1 is regulated under 40 CFR Part 279 (Standards for the Management of Used Oil).

40 CFR 261.2(f) requires owners or operators who are respondents in enforcement actions and claim that certain materials are not solid wastes or are conditionally exempt from regulation to provide documentation demonstrating the claim.

Step 15 Discharges covered under this provision include those that involve materials that are not considered to be HW until such time as they are discharged (i.e., products).

Step 16 If the discharged HW is treated or contained in a tank **after** the immediate response period is over, however, it is regulated as HW.

Step 17 This tank is subject to all applicable Subpart J requirements.

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2.3 Module B: Classification of Hazardous Waste Tanks by Age

2.3.1 Introduction

After identifying Federally regulated HW tanks, the next step is to classify the tanks by age. It is important to know the age of HW tanks at a facility. Some tanks that were in existence and in use prior to July 14, 1986, can be classified as new tanks if they have been removed from service and subsequently reinstalled as replacement tanks for existing systems. The requirements for secondary containment are different for new tanks than for existing tanks.

2.3.2 Milestones

Have all of the hazardous waste tanks been categorized according to age?

Tanks that meet the following criterion are categorized as "new" tanks:

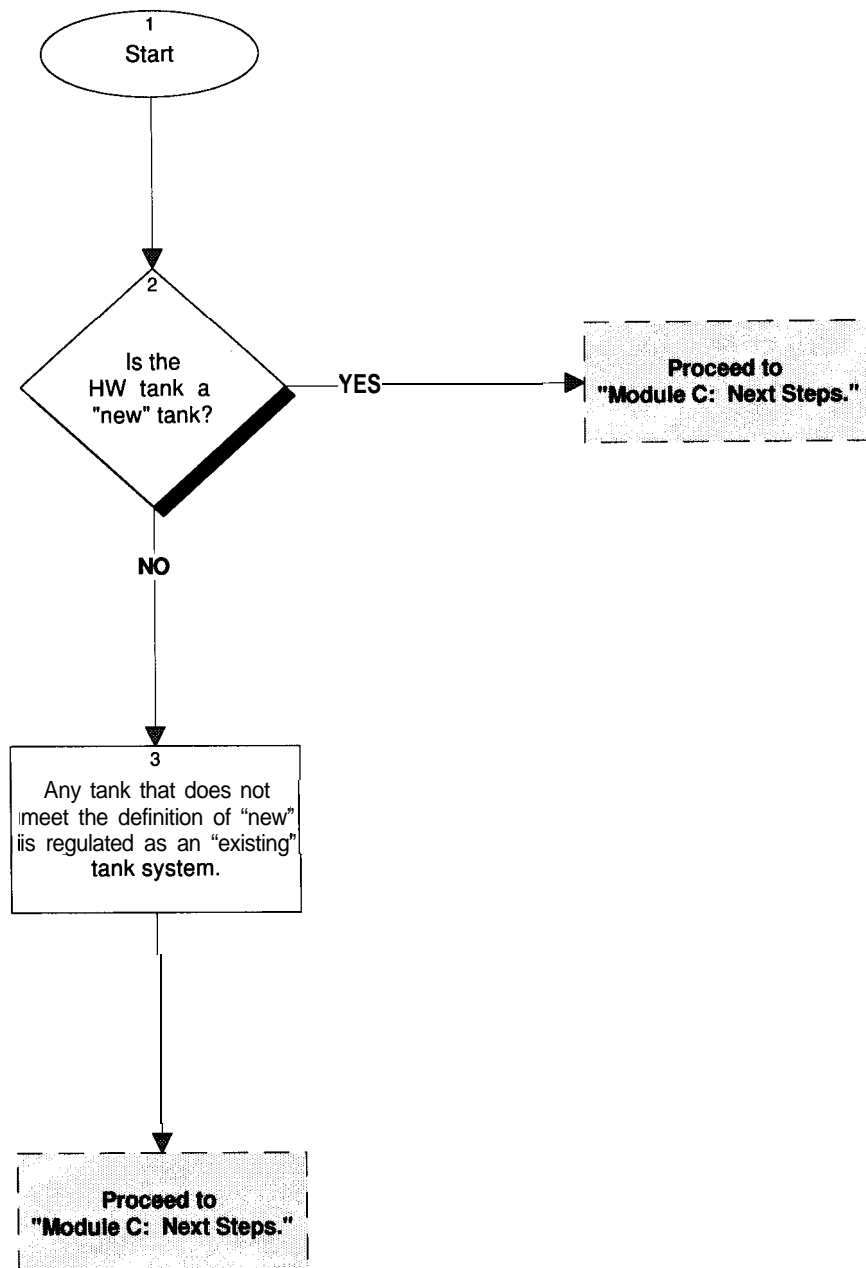
- Installation of the HW tank commenced after July 14, 1986.

Tanks that meet the following criterion are categorized as "existing" tanks:

- Installation of the HW tank commenced on or before July 14, 1986.

The following flowchart outlines EPA's age categorization requirements for HW tanks.

**Figure 2.2: Classification of Hazardous Waste Tanks
by Age**



Step 1 Start

Step 2 "New tank system" or "new tank component" means a tank system or component that will be used for the storage or treatment of HW and for which installation commenced after July 14, 1986.

"New tank system" means not only newly manufactured tank systems that will be put into service for the first time, but also "existing" tanks (defined in Step 3) that have been reinstalled and used as replacement tank systems.

Step 3 "Existing tank system" or "existing component" means a tank system or component that is used for the storage or treatment of HW and that is in operation or for which installation commenced on or prior to July 14, 1986.

Note: For the purpose of Steps 2 and 3, installation will be considered to have commenced if the owner or operator has obtained all Federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system **and**, if either:

- A continuous, on-site, physical construction or installation program has begun; or
- The owner or operator has entered into contractual obligations that cannot be canceled or modified without substantial loss, or without preventing the completion of the installation of the tank system within a reasonable amount of time.

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2.4 Module C: Next Steps

2.4.1 Introduction

The following flowchart is different from the other flowcharts in this document in that it acts as a map to other chapters of this guidance. This flowchart should be used to identify regulatory requirements associated with specific actions (e.g., installing a new HW tank, reporting releases, recordkeeping).

Once you have determined that the tank is Federally regulated, the decision diamonds on the left side of the flowchart can be used to find the appropriate row for the identified HW tank. The row of dashed line rectangles can then be followed to the rectangle containing the action that needs to be completed. The rectangle identifies the chapter that addresses the action. Proceed to that chapter for guidance.

Figure 2.3: Next Steps

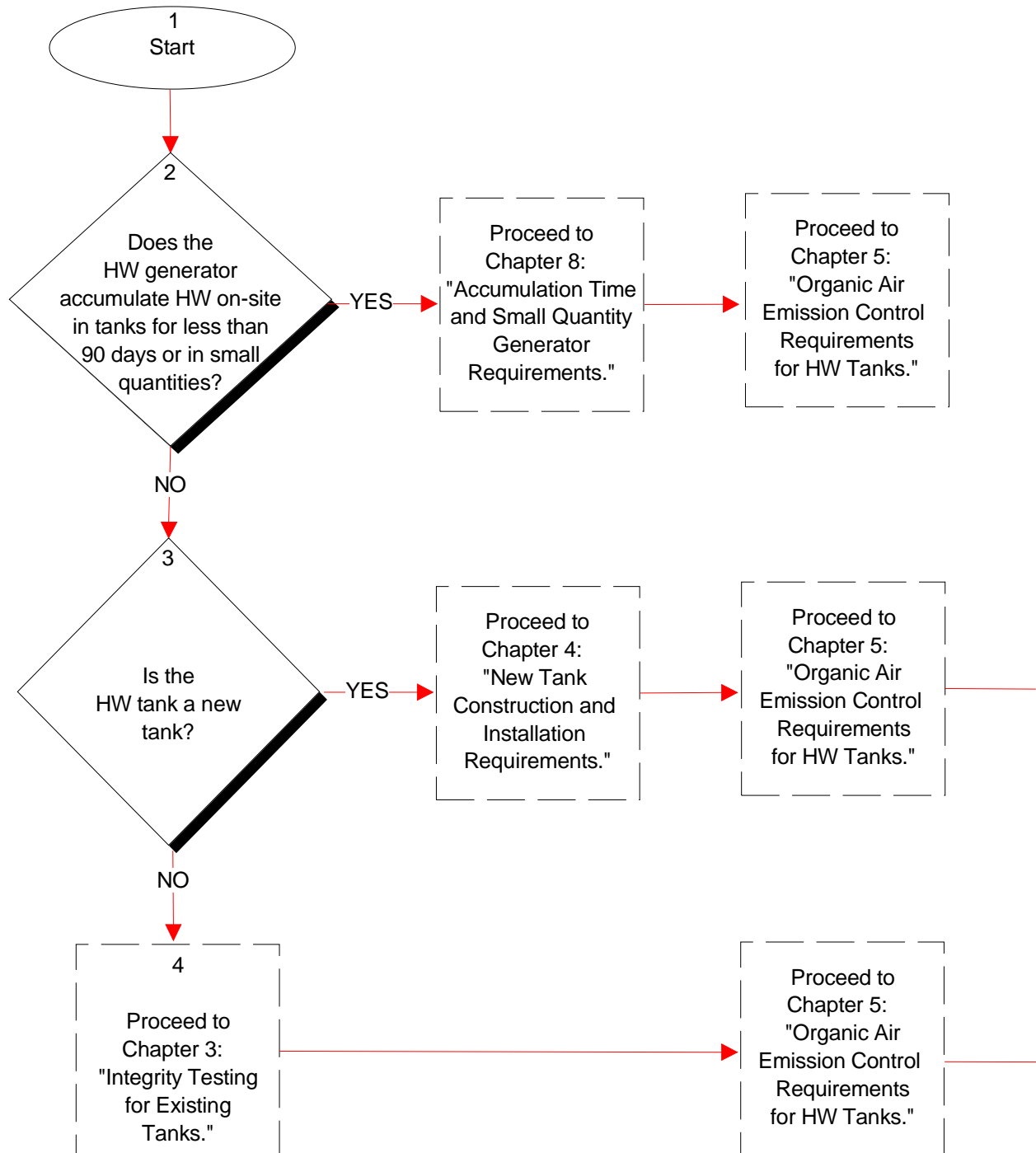
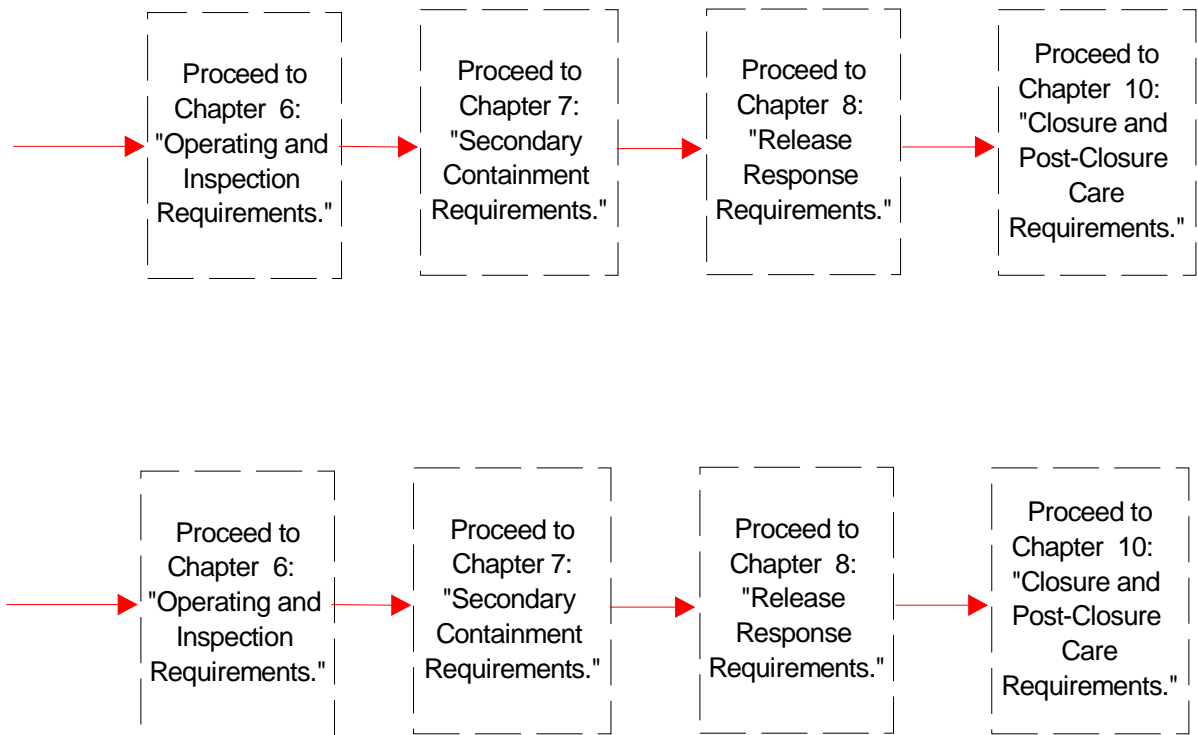


Figure 2.3: Next Steps - continued



Step 1 Start**Step 2** **Chapter 8: Accumulation Time and Small Quantity Generator Requirements**

Generators who accumulate HW on-site for 90 days or less must comply with the requirements presented in "Module A: Accumulation Time Requirements." Small quantity generators who accumulate HW on-site must comply with the requirements of "Module B: Small Quantity Generator Requirements." [40 CFR 261.5, 262.34, and 265.201]

Step 3 **Chapter 4: New Tank Construction and Installation Requirements**

Owners or operators of new tank systems are required to prove that their system has been adequately designed and safely installed. The structural integrity of the tank must be maintained in order to prevent HW leaks. [40 CFR 264/265.192] See the grey box on page 33 for a description of the remaining chapters that are applicable to new HW tanks.

Step 4 **Chapter 3: Integrity Testing for Existing Tanks**

This chapter provides the requirements for the assessment of existing tanks that do not have secondary containment. This assessment determines whether the tank is capable of holding HW without leaking. [40 CFR 264/265.191]

Note: With the exception of Chapter 3, which applies only to **existing** tanks, and Chapter 4, which pertains only to **new** tanks, all of the following chapters (and modules) apply to new and existing tanks. In the case of secondary containment, the **schedule** of compliance varies for new and existing tanks, but the actual requirements of Chapter 6, "Module A: Secondary Containment Requirements," are the same.

See the grey box on page 33 for a description of the remaining chapters that are applicable to existing HW tanks.

Chapter 5: Organic Air Emission Control Requirements for HW Tanks

With some DOE-relevant exceptions, large quantity generators and owners or operators of treatment, storage, and disposal facilities with HW tank systems are required to comply with air emission controls based on the average VO concentration of the HW: (1) at the point of waste origination, or (2) at the point of waste treatment. HW tanks standards are separated into two levels -- Tank Level 1 and Tank Level 2. [40 CFR Part 264/265, Subpart CC]

Chapter 6: Operating and Inspection Requirements

HW tanks (new and existing) must have sufficient spill and overfill prevention controls, and they must maintain adequate freeboard in uncovered tanks to prevent overtopping by wave or wind action. These requirements are presented in "Module A: Operating Requirements." [40 CFR 264/265.194] In addition to the operating requirements, Module B of this chapter provides inspection requirements. Daily inspection of certain elements of a HW tank system is required to quickly identify/prevent releases. [40 CFR 264/265.195]

Chapter 7: Secondary Containment Requirements

"Module A: Secondary Containment Requirements" describes the requirements for the installation of secondary containment for either existing or new tanks. It is possible to obtain a variance from the secondary containment requirements (see "Module B: Secondary Containment: Variance Requirements"). After a release of HW occurs from a tank that has received a variance, the response must be tailored to the variance type and to the extent of the spill. Consult "Module C: Responding to Releases from HW Tanks that have Received a Variance." [40 CFR 264/265.193]

Chapter 8: Release Response Requirements

In the event of a release from a HW tank, owners or operators must cease operation at that tank and perform any cleanup and repair required (see "Module A: Response to Leaks or Spills"), and must conduct reporting (See "Module B: "Release Reporting") as necessary. [40 CFR 264/265.196]

Chapter 10: Closure and Post-Closure Care Requirements

Upon closure of a HW tank system, the owner or operator must remove or decontaminate the system and manage all associated materials as HW as described in Module A. Furthermore, if all HW-contaminated soils, structures, etc. cannot be removed or decontaminated, the tank system must be closed in the same (more stringent) manner as HW landfills (see Module B). [40 CFR 264/265.197]

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